Supplementary Materials

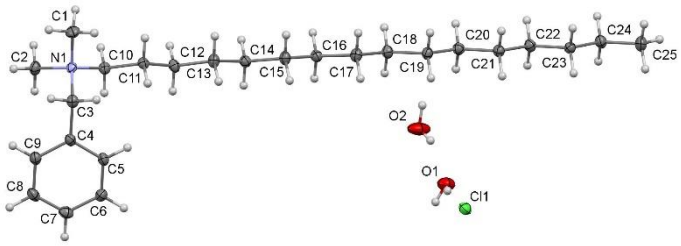

Figure S1. Three-dimensional structure of BAC_{16}, as determined by single-crystal X-ray diffraction (image courtesy of Dr. Muhammed Yousufuddin and with permission from IUCr Journals). Compound purification and identification methods and data were previously published by Aguinaga et al. (2023) [30]. The crystal contains BAC_{16} and two molecules of water.

Table S1. P10-Control Strain MICs for BAC_{12-14} and BAC_{16} .

MIC (mg/L)	BAC_{12-14} (P10-Control)	P value (P0 vs. P10-Control)	BAC_{16} (P10-Control)	P value (P0 vs. P10-Control)
S. epidermidis	0.28 ± 0.04	0.0901	0.25 ± 0.05	0.4226
C. xerosis	0.56 ± 0.11	0.8407	0.40 ± 0.13	0.7217
S. aureus	0.69 ± 0.24	0.5899	0.30 ± 0.12	0.7384
K. pneumoniae	2.56 ± 0.17	0.4833	0.63 ± 0.22	0.5057
E. coli	4.38 ± 0.48	0.6420	1.88 ± 0.22	0.5536
P. aeruginosa	13.13 ± 2.42	0.6186	21.25 ± 2.17	0.3343

MIC values are shown as mean ± standard deviation. Mean values include a minimum of two independent experiments with three replicates per experiment, for eight bacterial isolates per species. P10-Control, progenitor strains were passaged alongside experimental groups but were not exposed to sublethal BAC concentrations. Two-tailed t-tests were used to compare P0 (see Table 1) and P10-Control MIC values for each bacterial species. P values are shown. All p values were greater than 0.05 and were therefore not statistically significant ($p < 0.05$).

Table S2. Individual comparisons of BAC_{12-14} and BAC_{16} P0 and P10 MICs.

P values	P0 MIC	P10 MIC
	BAC_{12-14} vs BAC_{16}	BAC_{12-14} vs BAC_{16}
S. epidermidis	0.6616	0.1971
C. xerosis	**0.0049**	**1.50×10^{-8}**
S. aureus	**0.0004**	**6.70×10^{-14}**
K. pneumoniae	**4.40×10^{-9}**	**2.91×10^{-16}**
E. coli	**3.78×10^{-9}**	**6.80×10^{-10}**
P. aeruginosa	**0.0002**	**1.57×10^{-11}**

Two-tailed t-tests were used to compare P0 and P10 MIC values for each BAC compound. P values are shown. P values in bold are statistically significant ($p < 0.05$).

Table S3. Minimum Bactericidal Concentrations (MBCs) for BAC_{12-14} and BAC_{16}.

MBC (mg/L)	BAC_{12-14}	BAC_{16}	P value (BAC_{12-14} vs. BAC_{16})
S. epidermidis	0.47 ± 0.08	0.63 ± 0.22	0.0960

C. xerosis	1.03± 0.26	0.88 ± 0.22	0.2453
S. aureus	1.63 ± 0.22	0.47 ± 0.08	**2.73×10^{-9}**
K. pneumoniae	3.44 ± 0.39	1.06 ± 0.11	**3.26×10^{-10}**
E. coli	9.25 ± 0.97	2.75 ± 0.97	**5.20×10^{-9}**
P. aeruginosa	18.75 ± 3.31	45.63 ± 7.68	**6.68×10^{-7}**

MBC values are shown as mean ± standard deviation. Mean values include a minimum of two independent experiments with three replicates per experiment, for eight bacterial isolates per species. Two-tailed t-tests were used to compare BAC_{12-14} and BAC_{16} MBC values for each bacterial species. P values are shown. Values in bold are statistically significant ($p < 0.05$).

Table S4. Comparison of MBCs across all bacterial species.

P values	**BAC_{12-14}**			**BAC_{16}**		
	One-way ANOVA	Levene's test	Welch *F* test	One-way ANOVA	Levene's test	Welch F test
MBCs	**5.31×10^{-27}**	**2.37×10^{-8}**	**2.526×10^{-15}**	**2.10×10^{-29}**	**7.06×10^{-12}**	**1.70×10^{-11}**

One-way ANOVA analyses were performed to test for differences in BAC_{12-14} and BAC_{16} MBCs across all bacterial species. Levene's test was used to determine homogeneity of variance from the means. For all comparisons Levene's test p values were significant ($p < 0.05$), therefore the Welch *F* test was used to address unequal variance. P values for each analysis are shown. Values in bold are considered statistically significant ($p < 0.05$).

Table S5. Comparison of P0 MICs and P10 MICs across all bacterial species.

P values	**BAC_{12-14}**			**BAC_{16}**		
	One-way ANOVA	Levene's test	Welch *F* test	One-way ANOVA	Levene's test	Welch F test
P0 MIC Values	**7.03×10^{-29}**	**5.71×10^{-9}**	**3.40×10^{-14}**	**1.24×10^{-34}**	**0.0900**	**1.43×10^{-14}**
P10 MIC Values	**2.98×10^{-44}**	**4.92×10^{-19}**	**3.28×10^{-20}**	**1.38×10^{-28}**	**6.59×10^{-5}**	**4.51×10^{-14}**

One-way ANOVA analyses were performed to test for differences in P0 MICs and P10 MICs across all bacterial species for each BAC. Levene's test was used to determine homogeneity of variance from the means. For all comparisons Levene's test p values were significant ($p < 0.05$), therefore the Welch *F* test was used to address unequal variance. P values for each analysis are shown. Values in bold are considered statistically significant ($p < 0.05$).

Table S6. Individual comparisons of MICs between bacterial species.

BAC_{12-14} P0 MIC	*S. epidermidis*	*C. xerosis*	*S. aureus*	*K. pneumoniae*	*E. coli*
C. xerosis	**4.71×10^{-6}**	---	---	---	---
S. aureus	**5.48×10^{-5}**	0.5457	---	---	---
K. pneumoniae	**4.73×10^{-10}**	**5.19×10^{-9}**	**1.20×10^{-8}**	---	---
E. coli	**2.16×10^{-12}**	**9.42×10^{-12}**	**1.70×10^{-11}**	**4.02×10^{-6}**	---
P. aeruginosa	**1.42×10^{-10}**	**2.03×10^{-10}**	**2.19×10^{-10}**	**2.57×10^{-9}**	**2.79×10^{-8}**
BAC_{12-14} P10 MIC	*S. epidermidis*	*C. xerosis*	*S. aureus*	*K. pneumoniae*	*E. coli*
C. xerosis	**2.91×10^{-9}**	---	---	---	---
S. aureus	**4.51×10^{-14}**	**8.89×10^{-12}**	---	---	---
K. pneumoniae	**2.01×10^{-16}**	**5.45×10^{-16}**	**1.48×10^{-14}**	---	---
E. coli	**2.92×10^{-10}**	**4.37×10^{-10}**	**1.54×10^{-9}**	**2.63×10^{-6}**	---
P. aeruginosa	**7.14×10^{-16}**	**7.70×10^{-16}**	**9.62×10^{-16}**	**2.81×10^{-15}**	**4.08×10^{-14}**
BAC_{16} P0 MIC	*S. epidermidis*	*C. xerosis*	*S. aureus*	*K. pneumoniae*	*E. coli*
C. xerosis	0.0535	---	---	---	---
S. aureus	0.2589	0.2631	---	---	---
K. pneumoniae	**2.13×10^{-6}**	**0.0054**	**8.36×10^{-5}**	---	---

E. coli	**1.81×10^{-13}**	**1.20×10^{-11}**	**1.06×10^{-12}**	**3.30×10^{-11}**	---
P. aeruginosa	**5.89×10^{-12}**	**6.45×10^{-12}**	**6.08×10^{-12}**	**7.44×10^{-12}**	**2.04×10^{-11}**
BAC_{16} P10 MIC	*S. epidermidis*	*C. xerosis*	*S. aureus*	*K. pneumoniae*	*E. coli*
C. xerosis	**5.11×10^{-6}**	---	---	---	---
S. aureus	0.0939	**0.0342**	---	---	---
K. pneumoniae	**3.34×10^{-7}**	**0.0006**	**6.54×10^{-5}**	---	---
E. coli	**4.95×10^{-10}**	**2.19×10^{-9}**	**1.44×10^{-9}**	**2.05×10^{-8}**	---
P. aeruginosa	**5.81×10^{-14}**	**6.00×10^{-14}**	**5.90×10^{-14}**	**6.26×10^{-14}**	**8.38×10^{-14}**

Two-tailed t-tests were used to identify differences in MICs between individual bacterial species. P values are shown.
---, P value is present in the table.
Values in bold are statistically significant ($p > 0.05$).

Table S7. Comparison of P10+EPI MICs to P0 MICs and P10 MICs.

P values	BAC_{12-14}		BAC_{16}	
P10 +EPI	vs. P0	vs. P10	vs. P0	vs. P10
S. epidermidis	NT	NT	NT	NT
C. xerosis	0.0867	**4.71×10^{-6}**	NT	NT
S. aureus	0.7900	**2.60×10^{-12}**	NT	NT
K. pneumoniae	**6.81×10^{-7}**	**2.04×10^{-8}**	NT	NT
E. coli	**1.12×10^{-11}**	**0.0001**	NT	NT
P. aeruginosa	**3.95×10^{-9}**	**2.62×10^{-13}**	**2.91×10^{-9}**	**1.4×10^{-9}**

Two-tailed t-tests were used to compare MICs following EPI treatment to P0 and P10 MICs. P values are shown. Values in bold are statistically significant ($p < 0.05$). NT, Not Tested– no change in P10 MIC values were observed for BAC-acclimated bacteria (See Table 2).